

Claims

1. A titanium compound represented by the following formula (1) or (2):



(In the formulae, n is an integer of from 0 to 3).

2. A sintered body obtained by sintering a titanium compound.

3. The sintered body as claimed in claim 2, wherein the titanium compound is represented by the following formula (1) or (2):



(In the formulae, n is an integer of from 0 to 3).

4. The sintered body as claimed in claim 2, wherein the titanium compound is produced by adding an alkali to a solution containing a calcium ion, a titanium ion and phosphoric ion, thereby coprecipitating.

5. A sintered body comprising perovskite and whitlockite.

6. A sintered body substantially consisting of perovskite and whitlockite.

7. The sintered body as claimed in claim 5, wherein the perovskite and whitlockite are obtained by sintering a titanium compound.

8. The sintered body as claimed in claim 7, wherein the titanium compound is represented by the formula (1) or (2):



(In the formulae, n is an integer of from 0 to 3).

9. The sintered body as claimed in claim 7, wherein the titanium compound is produced by adding an alkali to a solution containing a calcium ion, a titanium ion and phosphoric ion, thereby coprecipitating.

10. A method for producing a sintered body, sintering a titanium compound.

11. The production method as claimed in claim 10, wherein the titanium compound is represented by the formula (1) or (2):



(In the formulae, n is an integer of from 0 to 3).

12. The production method as claimed in claim 10, wherein the titanium compound is produced by adding an alkali to a solution containing a calcium ion, a titanium ion and phosphoric ion, thereby coprecipitating.

13. The production method as claimed in claim 10, wherein the sintering is conducted at a temperature exceeding 800°C.

14. The production method as claimed in claim 10, wherein the sintering is conducted under an inert gas atmosphere and/or under reduced pressure.

15. The production method as claimed in claim 14, wherein the inert gas is xenon and/or argon.

16. The production method as claimed in claim 14, wherein the sintering is conducted under a pressure of 10^{-4} Pa or lower.

17. A sintered body obtained by sintering a mixture containing a titanium compound and an inorganic substance.

18. The sintered body as claimed in claim 17, wherein the titanium compound is represented by the formula (1) or (2):



(In the formulae, n is an integer of from 0 to 3).

19. The sintered body as claimed in claim 17, wherein the titanium compound is produced by adding an alkali to a solution containing a calcium ion, a titanium ion and phosphoric ion, thereby coprecipitating.

20. The sintered body as claimed in claim 17, wherein the inorganic substance is at least one selected from the group consisting of calcium hydroxyapatite, calcium fluoroapatite, β -tricalcium phosphate, α -tricalcium phosphate, tetracalcium phosphate, metallic titanium, titanium oxide and platinum.

21. A method for producing a sintered body, sintering a mixture containing a titanium compound and an inorganic substance.

22. The production method as claimed in claim 21, wherein the titanium compound is represented by the formula (1) or (2):



(In the formulae, n is an integer of from 0 to 3).

23. The production method as claimed in claim 21, wherein the titanium compound is produced by adding an alkali to a solution containing a calcium ion, a titanium ion and phosphoric ion, thereby coprecipitating.

24. The production method as claimed in claim 21, wherein the inorganic substance is at least one selected from the group consisting of calcium hydroxyapatite, calcium fluoroapatite, β -tricalcium phosphate, α -tricalcium phosphate, tetracalcium phosphate, metallic titanium, titanium oxide and platinum.

25. The production method as claimed in claim 21, wherein the sintering is conducted at a temperature exceeding 800°C.

26. The production method as claimed in claim 21, wherein the sintering is conducted under an inert gas atmosphere and/or under reduced pressure.

27. The production method as claimed in claim 26, wherein the inert gas is xenon and/or argon.

28. The production method as claimed in claim 26, wherein the sintering is conducted under a pressure of 10^{-4} Pa or lower.

29. An artificial bone material, an artificial joint material, an artificial tooth material or an artificial dental root material, constituted of the sintered body as claimed in claim 1.

30. An artificial bone material, an artificial joint material, an artificial tooth material or an artificial dental root material, constituted of the sintered body as claimed in claim 17.

31. An artificial bone, an artificial joint, an artificial tooth or an artificial dental root, comprising the sintered body as claimed in claim 1.

32. An artificial bone, an artificial joint, an artificial tooth or an artificial dental root, comprising the sintered body as claimed in claim 17.